

Week/ Lesson	Topic/key idea	Activity	Resource	Homework	Assessment
	<b>SEMESTER 2</b>	<b>Stoichiometry (6 weeks)</b>			
Week 9 SL	Introduction to the mole	Powerpoint, video clips			
DL DL	Mole calculations, $n=m/m$		Essentials Qu handout		
SL	Empirical and molecular formula	Pracs: Gum % composition, Smartie formulas			
Week 10 SL	Empirical and molecular formula calculations		Summary booklet, Essentials Qu		
DL DL	Limiting reagents	Primary school student visit, yr 6&4 Run 9 chemical/physical change prac plus student and teacher demos Mg and HCl Sodium sulfate and barium chloride Steel wool and copper sulfate DEMOS: Burning Mg and burning steel wool TEACHER DEMO: Elephant's toothpaste Sherbet making to finish Perfect timing for double lesson			
SL	Limiting reagents	S'mores worksheet and activity  Worked well with 2 x packets biscuits, 2 x choc (coles premium – use thin squares like lindt) 1 x marshmallow MADE 12 SMORES  Sandwich press to cook – don't cook too long or will burn on the bottom Wrap in alfoil to avoid mess	Chocolate digestive biscuits Marshmallows Chocolate Sandwich press Alfoil Styrofoam cups Tea/coffee/hot choc/milk Urn Paper towel		
	<b>TERM 3</b>				
Week 1 SL	Mole calculations	Recap, Q 1-8 in summary booklet		Q1-4 Homework	
DL DL	% compositions, Titration: theory and demo – preparing standard	Booklet Qu 9		Q 1-9 in summary booklet	
SL	AWAY	Q 1-9 in summary booklet		Q 1-9 in summary booklet	

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Week 2 SL	Prep standard for titration in double	Sodium carbonate standard		Write paragraph/steps about standard prep	
DL DL	Practise titration Molecular formula Calcs	Standardising HCl Booklet Qu 10-14		Write paragraph/steps on performing a titration	
SL	AWAY ON EXCURSION				
Week 3 SL	Mole Quiz Empirical formula calcs Booklet Qu 10-14 Stoich calculations/conversions			Finish for homework Molecular and empirical formula Booklet Qu 10-14	Quiz questions
DL DL	Titration Stoich calculations/conversions	CO2 in fizzy drink *Skills checklist		Check homework	
SL	Stoich calculations/conversions				
Week 4 SL	Concentrations  Limiting reagents	Concentration qu 1-9		Concentration qu 1-9	
DL DL	Titration	% acetic acid in white wine Titration Calc		List sources or errors in titration and improvements	
SL	Dilutions	Dilution Qu 10-14		Dilution Qu 10-14	
Week 5 SL	Titration calculations				
DL DL	Summative titration	Ammonia content in cleaner			
SL		Practise test: summary test in essentials			
		The Atmosphere (2 weeks) - theory			
Week 6 SL		The Atmosphere – Oxygen, CO2 and N2	Print slides and have students fill in to save time	Homework/lesson questions after each topic if time – see draft of essentials Qu next time	Prac draft due
DL DL	<a href="http://www.stevespanglerscience.com/lab/experiments/heavy-gas-sulfur-hexafluoride-sf6/">http://www.stevespanglerscience.com/lab/experiments/heavy-gas-sulfur-hexafluoride-sf6/</a>	Stoichiometry TOPIC TEST Cycles in Nature Ozone layer			Summative titration due
SL		Greenhouse effect Acid rain	<i>How to make a rubber egg prac?</i>	Pick topic for issues	

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Week 7 SL		Photochemical smog Issues	Issues investigation task sheet		
DL DL		Issues (in library)			
SL	STUDENT FREE DAY				
Week 8 SL	SCHOOL CLOSURE DAY				
		Metal and Metal Extraction (3 weeks)			
DL DL		Metals, properties, minerals			Issues draft due
SL		Blast furnace			
Week 9 SL		Issues workshop			
DL DL		Blast furnace quiz Precipitation reactions Precipitation reactions practical		Finish equations	Issues second draft due
SL		Al reduction			
Week 10 SL		Al reduction quiz Revision – test and assignment	Revision test (2013 SHCS) and assignment 16		Issues due
DL DL	<i>Most students away due to weather, test postponed until W1</i>	Revision – 30 mins Topic 3 test			
SL		Making icecream practical			Holiday assignment, questions on Atmosphere and metal and metal extraction.

Term 4

Week/ Lesson	Topic/key idea	Activity	Resource	Homework	Assessment
		Organic Chemistry (5 weeks)			
Week 1 SL	Organic intro Homologous series Alkanes		Organic summary booklet Essentials Qu		
DL DL	Alkanes	<i>Topic test: Metals and metal extraction Naming alkanes</i>		Finish Q1-5	Holiday assignment Due
SL	Alkanes Isomers	Naming, drawing structures with branched chains		Finish Q 8-10	
Week 2 SL	Alkenes Alkynes Rings Addition/condensation reactions			Finish Q 11-18	
DL DL	Solubility Combustion	Properties of alkanes practical – solubility, combustions			
SL	<i>Functional groups – I, NH<sub>3</sub>, Br, Cl</i> Alcohols- primary, secondary, tertiary – dichromate	<i>Need for essentials summary test</i>			
Week 3 SL	Quiz Combustion recap Alcohols- primary, secondary, tertiary – dichromate				Organic Quiz Adapted from <a href="http://www.dynamicsscience.com.au/tester/exam/sittest.asp?Tid=3780">http://www.dynamicsscience.com.au/tester/exam/sittest.asp?Tid=3780</a>
DL DL	Alcohols – ethanol production	Alcohols prac  Fermentation set up		Q17	
SL	Carboxylic acids	STUDENT FREE DAY			
Week 4 SL	Aldehydes, ketones – Tollens Carboxylic acids	Distillation demo		Answer Qu on distillation	
DL DL	Carboxylic acids Esters	Ester prep prac		Answer Qu in handout on aldehydes and ketones, ester prac analysis.	

**Commented [CK1]:** Do Thursday, Students hadn't done alcohols in relief lesson

**Commented [CK2]:** No notes made on primary, secondary, tertiary

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SL	<i>Soaps and detergents?</i>	Ester prep prac – using separating funnel		Summary test 9 pg 223 Essentials Experimental skills pg 305	<b>Have all assessment pieces in</b>
Week 5 SL	Organic revision	Organic revision			
DL DL		<i>Summative ester prac</i> Organic Test Revision – notes on key ideas - metals			
SL		Revision – notes on key ideas - metals			
Week 6 SL		Go through organic test Revision – notes on key ideas - Stoich			Ester report due
DL DL		EXAMS			
SL		Last Lesson Fun			

**Commented [CK3]:** Need more time! Should do this next year

**Commented [CK4]:** No time this year, would be better to have this in the course though.

*Improvements:*

*Stoichiometry – mini quiz a good idea.*

*Titration practical write up – rewrite questions on practical sheet to include rinsing techniques – be a bit more descriptive for cohort*

*Discuss error analysis thoroughly again, make a point that mistakes and good practice/skills are NOT errors.*

*Discuss accuracy and precision again.*

*Atmosphere: not enough time on it. Need a good week on theory and a good week on issues, also a workshop once students have finished first draft.*

*Metals: enough time for class theory, could have done with an assignment as well to reinforce questions. (Did over holidays, great idea!)*

*Need more than 5 weeks on organic to do summative ester prac and touch on soaps and polymers.*

*Organic: Making esters takes several lessons first time.*

*Prac worksheets on distillation and reflux a great idea.*

*Add extra to summary notes – aldehydes and ketones + questions.*

**Resources**

<http://www.creative-chemistry.org.uk/index.htm>